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ABSTRACT

To investigate whether men and women think alike about drinking and the effects of alcohol, the Alcohol Expectancy Questionnaire was administered to 440 college students, 120 medical patients, and 305 alcoholics in residential treatment. Previous and current drinking patterns and background information were also examined. Subjects were grouped by sex into one of four drinking patterns ranging from nondrinkers to alcoholics. Analysis of the results showed that the women viewed alcohol as producing more global experiential changes, social and physical pleasure, and arousal and tension reduction than did men. In contrast, men expected significantly more improvements in their ability to be socially assertive when drinking. The results also indicated a significant gender by drinking pattern interaction, with females' alcohol reinforcement expectancies decreasing as drinking experience increased. Among men, non-drinkers and alcoholics maintained more limited reinforcement expectations, and light to moderate and heavy drinkers maintained the strongest reinforcement expectancies. The findings suggest that men and women view alcohol from different perspectives in the early stage of alcohol use. (JAC)

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Drinking and Thinking: The Diverging Beliefs of Women and Men

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DRINKING AND THINKING: THE DIVERGING

BELIEFS OF WOMEN AND MEN

The present study investigates whether women and men think alike when it comes to drinking and alcohol's effects. This issue is significant in that experimental studies designed to separate pharmacologic effects from cognitive effects of alcohol have predominantly reported results for male social drinkers or alcoholics (e.g. Lang, Goeckner , Adesso & Marlatt, 1975; Marlatt, Demming & Reid, 1975). The few parallel studies examining an effect of alcohol on both men and women have yielded different results across sexes (e.g. Abrams & Wilson, 1979; Wilson & Abrams, 1978)

More recently factor analytic research investigating alcohol related cognitions indicates that significant drinking pattern and sex differences exist in adolescent and adult populations (e.g. Brown, Goldman, Inn & Anderson, 1980; Christiansen, Goldman & Inn, 1982). Such findings raise questions regarding generalizability of experimental conclusions and applicability of unitary theoretical perspectives on the development of alcohol use for both men and women.

The present study addresses the issue of cognitive and behavioral sex differences by examining the independent and joint effects of sex and drinking pattern on alcohol related cognitions. Specifically, the domain of positive beliefs about alcohol's effects was assessed via the Alcohol Expectancy Questionnaire - AEQ (Brown et al. 1980 and examined as a function of sex and drinking pattern.

Method

Subjects

The 865 men and women participating in the present study included: 440 college students, 120 medical patients and 305 alcoholics currently participating in residential or inpatient alcohol treatment programs (ATP). Medical patients and ATP participants were screened for psychopathology and reading level prior to participation. Additionally, three weeks post-detoxification was required for

APT subjects. All participation was voluntary and carried out within the ethical guidelines of the universities and facilities involved.

Procedure

Each subject independently completed a series of questionnaires examining: 1) personal beliefs about alcohol's effects (Alcohol Expectancy Questionnaire), 2) previous and current drinking patterns (Customary Drinking Record), and 3) background information related to American drinking practices (Demographic Data Sheet).

Subjects were grouped by sex into one of four drinking patterns (nondrinkers, light to moderate drinkers, heavy drinkers, and alcoholic). All subjects currently or previously participating in alcohol treatment programs were classified as alcoholic. While other "alcoholics" may have been present in the subject population, a most conservative approach was taken in defining this category to avoid false positives. Subjects were classified as nondrinkers if, by self report, they had never consumed alcohol or consumed alcohol only to taste the beverage and do not drink alcohol on a regular basis. Individuals drinking up to three days per week and seldom in excess (more than 5 oz.) were classified as light to moderate drinkers. Subjects consuming alcohol four or more days per week with an average of more than three drinks per day were placed in the heavy drinking category.

The Alcohol Expectancy Questionnaire (AEQ) measures six alcohol-related reinforcement factors: 1) global, positive changes, 2) enhanced sexual pleasure and performance, 3) social and physical pleasure, 4) increased social assertion, 5) relaxation and tension reduction, and 6) arousal with feelings of interpersonal power (Brown et.al., 1980). For each subject the six AEQ scores were calculated (see Figure 1) and examined via analysis of variance and covariance procedures to determine cognitive differences as a function of sex and usual drinking pattern.

Results

To examine the overall relationship between alcohol reinforcement expectancies and drinking habit, a total expectancy score was calculated for each subject by summing the six specific expectancy scores from the AEQ. Figure 1 presents the results of analysis of variance of the total alcohol expectancy measure and drinking pattern. Since the drinking pattern groups differed in terms of age, sex, education and ethnicity, an analysis of covariance was also conducted to partial out these effects and examine drinking pattern and alcohol expectancy more directly. The analysis of variance and covariance yielded significant differences across drinking patterns ($F = 30.349$, $df = 3/832$; $p < .001$ and $F = 8.50$; $df = 3/664$, $p < .001$, respectively). A post hoc Newman-Kuels multiple range test indicated that alcoholics maintained more limited expectations of reinforcement from alcohol than the other drinking groups ($p < .05$).

The alcohol-related reinforcement expectancies of men and women were first compared through an analysis of variance for each of the six expectancy scores. The results of these analyses are presented in Figure 2. Five of the six analyses reached statistical significance at the $p < .001$ level.

The expectancy scores of women exceeded those of men on scales I (Global Positive Changes), III (Physical and Social Pleasure), V (Tension Reduction) and VI (Arousal/Power). Males obtained higher scores on Expectancy IV (Social Assertion), while no sex differences were evidenced on scale II (Sexual Enhancement).

Men and women were differentially dispersed across the three subject populations of the present study ($t = 11.75$; $df = 808$; $p < .01$). Females constituted 56% of the college subjects, 20% of the alcoholic subjects and 15% of the medical subjects. Consequently, the male and female populations differed in terms of age ($t = 7.80$; $df = 730$, $p < .01$), education ($t = 5.88$; $df = 713$; $p < .01$), marital status ($t = 6.39$; $df = 760$; $p < .01$) and ethnic background ($t = 2.39$); $df = 808$; $p < .05$). Analysis of covariance procedures was used to first partial out these sample effects in the examination of sex differences in alcohol reinforcement expectancies.

Using univariate covariate procedures, significant sex differences remained for expectancies of increased social assertion ($F = 12.241$; $df = 1/660$, $p < .001$) and arousal with feelings of power ($F = 7.093$; $df = 1/660$; $p < .01$). Male and female expectancy scores for scales I (Global, positive changes), II (sexual enhancement), V (tension reduction) and III (social/physical pleasure) failed to achieve statistical significance after age, education, marital status and ethnic background effects were partially out ($p = 1.74$, $p = .058$, $p = .092$, and $p = .115$, respectively). As with the previous analyses, expectations of increased social assertion were higher among males while expectancies of increased arousal were higher among the female population.

The effects of gender and drinking pattern were jointly examined by a 2-way analysis of variance on the total expectancy score. Results indicate main effects for gender ($F = 23.710$; $df = 7/801$; $p < .001$) and a significant gender by drinking pattern interaction ($F = 9.614$; $df = 7/801$; $p < .001$). Table 1 presents the sex by drinking pattern expectancy endorsement. For females, alcohol reinforcement expectancies decrease as drinking experience escalates. Among men, non-drinkers and alcoholics maintain more limited expectations of reinforcement from alcohol, whereas light to moderate and heavy drinkers maintain the strongest reinforcement expectancies.

To further clarify the relationship of drinking pattern and gender with alcohol expectancies, each scale was examined separately within male and female populations. Results of the ANOVAS are presented in Figure 3 and Figure 4. Significant within sex differences were obtained for all six expectancy scales for men and four of six scales for women. Within male and female populations, alcoholics obtained lower scores on expectancies of physical and social pleasure ($F = 55.006$; $df = 3/498$; $p < .001$ and $F = 5.035$, $df = 3/231$, $p < .01$), tension reduction ($F = 38.978$, $df = 3/498$, $p < .001$ and $F = 4.142$; $df = 3/231$, $p < .01$) and arousal/power ($F = 53.286$, $df = 3/498$, $p < .001$ and $F = 4.223$, $df = 3/231$, $p < .01$). Alcoholics obtained the highest scores on the increased social assertion scale within both male and female populations $F = 75.386$, $df = 3/498$, $p < .001$ and $F = 20.969$, $df = 3/231$, $p < .001$).

Within the female populations, heavy drinkers consistently obtained the highest expectancy scores with the exception of the social assertion expectancy. Within male populations higher scores were obtained by light to heavy drinkers.

Discussion

The results of the present study demonstrate significant gender and drinking pattern differences in alcohol expectancies. As expected, reports of alcohol's positive effects were found to decrease at the abusive end of the drinking continuum. In general, women in the present study viewed alcohol as producing more global experiential changes, social and physical pleasure, arousal and tension reduction than did men. In contrast, men expected significantly more improvements in their ability to be socially assertive when drinking than their female peers.

A gender by drinking pattern interaction effect is apparent in which the reinforcement value of alcohol was found to vary differentially across sexes. Women with no personal drinking experience attribute ~~the most~~ reinforcement value to alcohol. However, as drinking experience increases among the female population, these expectancies decrease and drop significantly at the abusive end of the drinking continuum. A different alcohol reinforcement expectancy pattern was evident among the male populations of the present study. While light, moderate and heavy male drinkers reported substantial expectations of reinforcement from alcohol, both non-drinkers and alcoholics attributed much less reinforcement to alcohol. Thus, while both alcoholic men and women view alcohol as significantly less positive, the reinforcement expectancies diverge.

Thus, while the alcohol expectancies of men and women are similarly reduced among alcoholic populations, males and females at the other end of the drinking continuum (those with little or no personal experience with alcohol) view alcohol in a more divergent fashion. Non-drinking women see alcohol as having consistently powerful positive effects across diverse forms of behavior and experience. Males who choose

not to consume alcohol view the drug as producing fewer positive effects.

It is interesting to note, however, that while both non-drinking and alcoholic men maintain more limited expectations of reinforcement from alcohol, the specific pattern of their expectancies differs. Post hoc Newman-Kuels tests of individual expectancy scales indicate that male alcoholics endorse the social assertion expectancy more than all other groups of male drinkers, but they endorse the tension reduction and arousal/power expectancies less than other groups. In contrast, non-drinking males expect less sexual enhancement with drinking and view alcohol as producing fewer global or general, positive effects.

The present study not only clarifies alcohol's perceived reinforcement value across populations but demonstrates for the first time that alcohol's reinforcing characteristics become signifcantly less variable as alcohol use reaches excessive proportions. In the present study the expectancy endorsement pattern of male and female alcoholics varied only in degree, whereas sex differences in alcohol reinforcement appear to be more pronounced at the lower end of the drinking use continuum. Thus, as noted by previous authors (Brown, et.al., 1980, Christiansen, et.al., 1982) social learning effects may be most pronounced prior to the appearnace of more disruptive pharmacologic effects of the drug. Thus, it is possible that educational procedures may be most effective in modifying alcohol's perceived reinforcement value when directed at potential or early consumers.

The present study was designed to examine alcohol expectancies on two dimensions: drinking pattern and gender. Significant sex and drinking pattern differences demonstrated in the present study question the generalizability of results of experimental alcohol studies. In light of the divergent pattern of cognition across sexes and drinking habits, experimental studies with female and less abusive populations is clearly in order.

Finally, the findings of the present study suggest that while the pharmacologic effects of chronic alcohol abuse may produce similar beliefs across sexes, men and

women view alcohol from significantly different perspectives at early stages of alcohol use. These results suggest a differential progression in the experience of alcohol as alcohol consumption increases with men and with women. Longitudinal investigations of the cognitive factors and experienced reinforcement accompanying alcohol consumption are needed to clarify this process.

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Figure 1. Alcohol Expectancies and Drinking Pattern

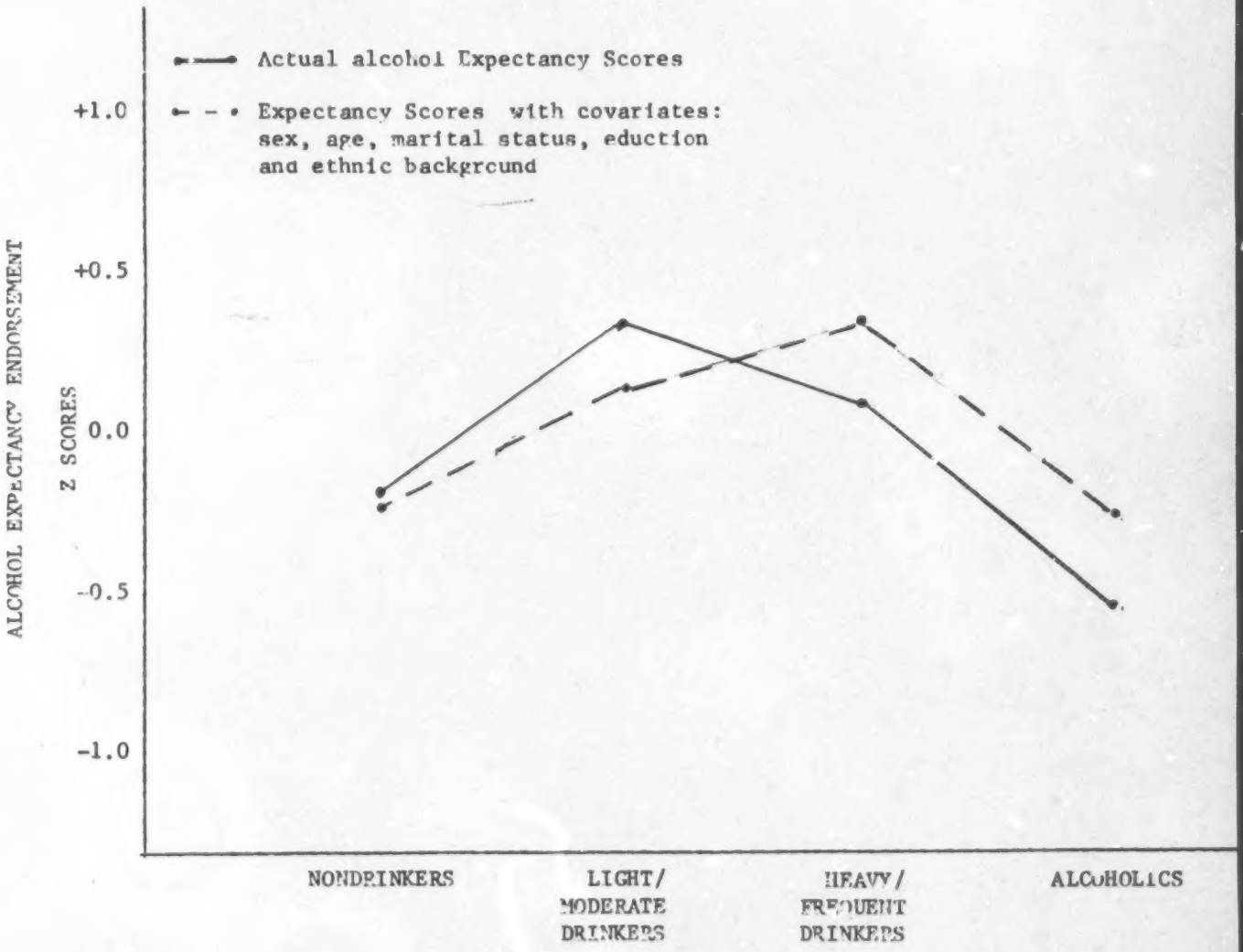

Figure 2. Alcohol Expectancy Endorsement of Men and Women

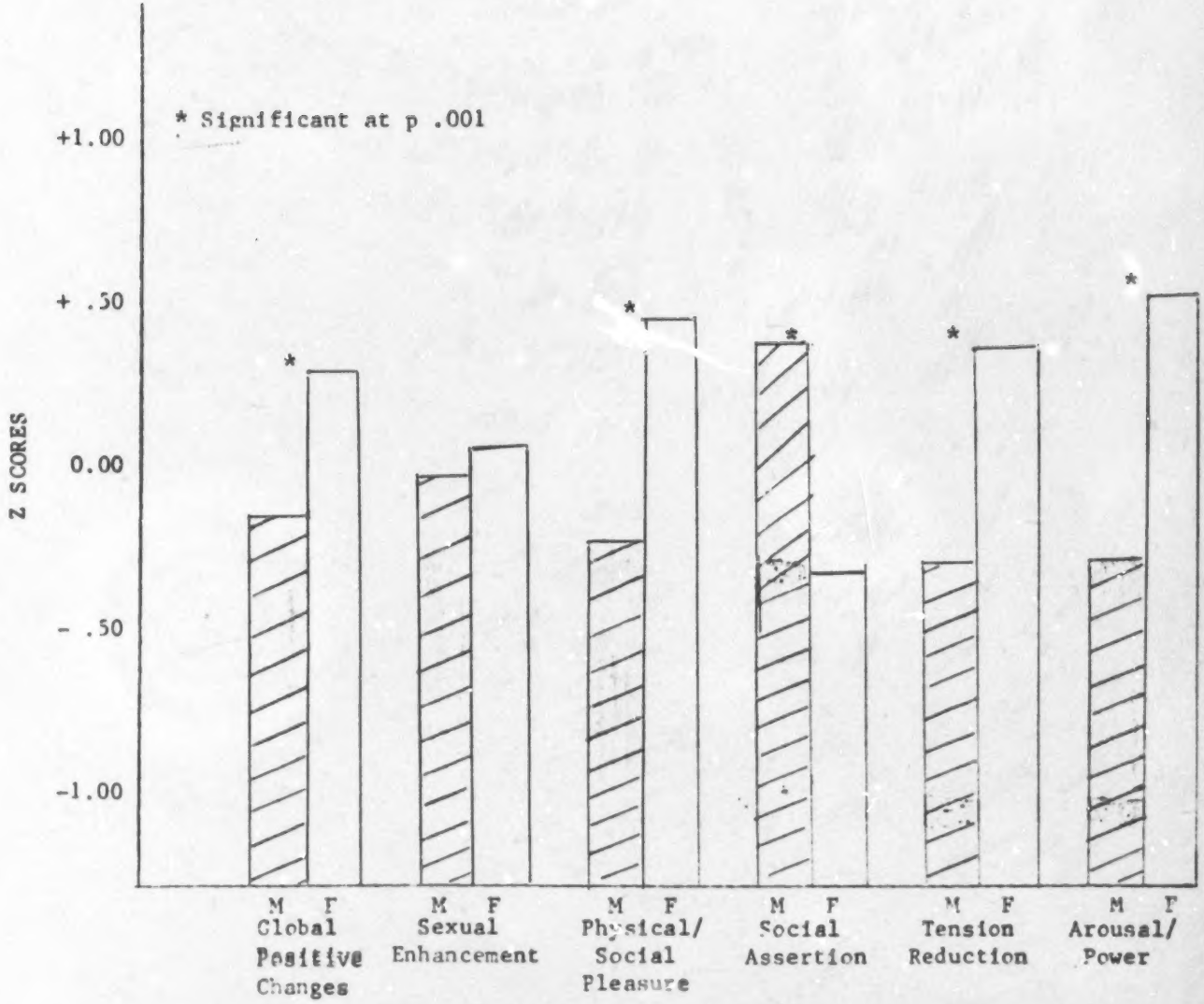

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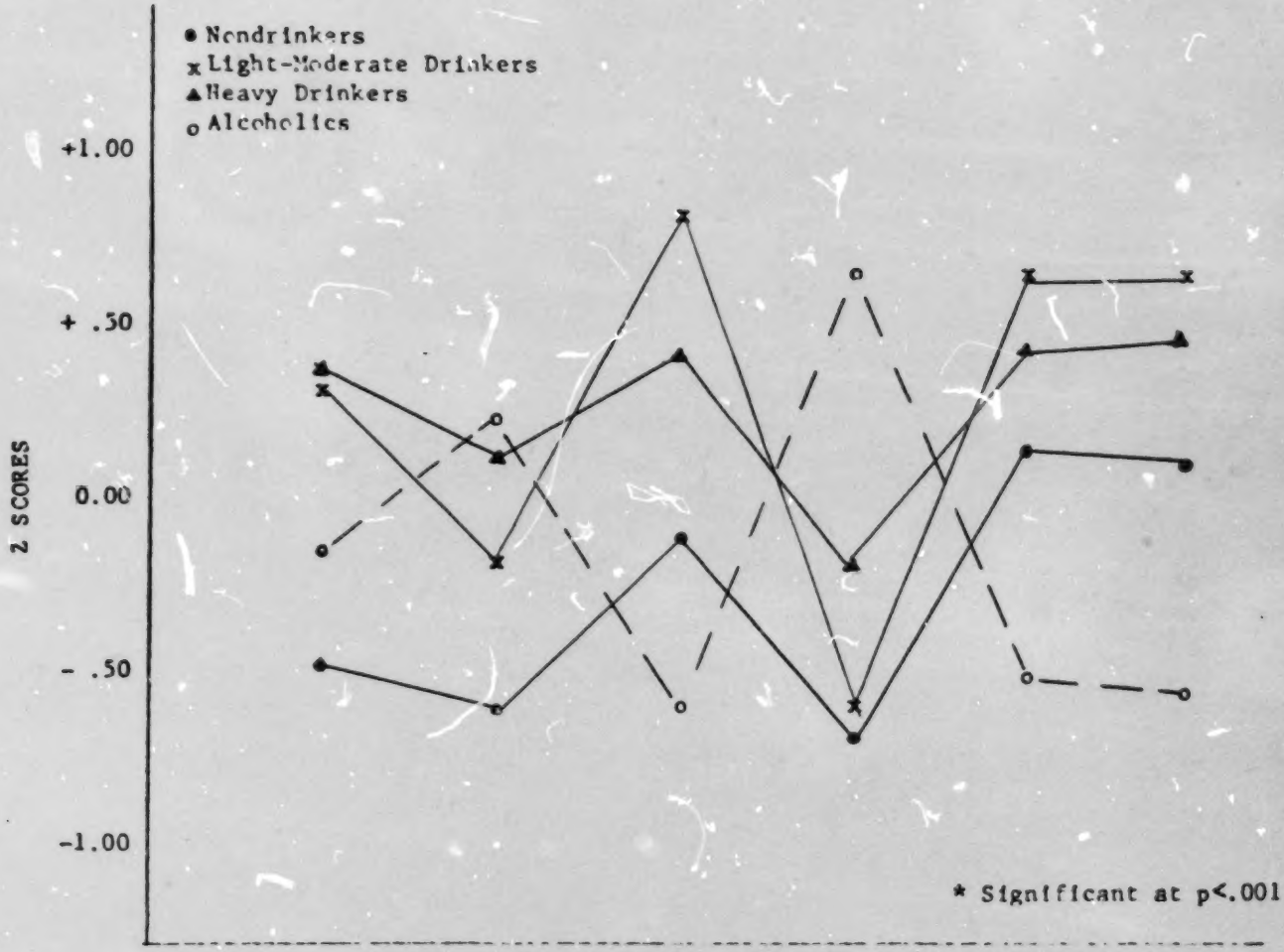
Table 1. Alcohol Expectancy Endorsement: Sex by Drinking Pattern*

	MALES	FEMALES	TOTAL
NONDRINKERS	56.5% (63)	91.1% (66)	78.0% (129)
LIGHT/ MODERATE DRINKERS	77.2% (118)	84.7% (150)	81.5% (268)
HEAVY DRINKERS	72.7% (99)	83.8% (38)	76.8% (137)
ALCOHOLICS	54.6% (222)	47.6% (58)	53.4% (280)

Figure 3. Alcohol Expectancies by Drinking Pattern:
Male Profile



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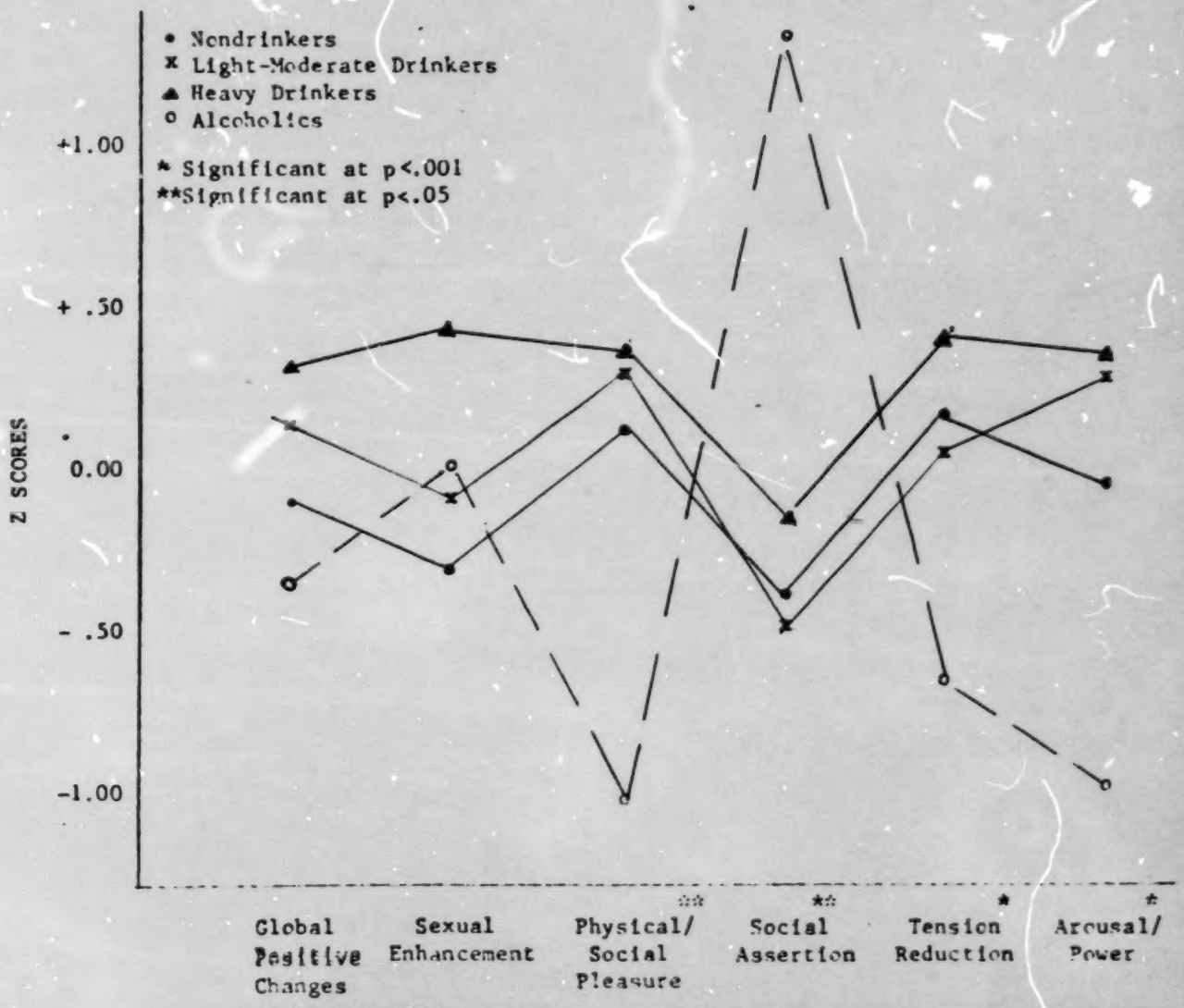
Fipure 4. Alcohol Expectancies by Drinking Pattern: Female Profile



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